



Voting Systems Testing Board Major Deficiencies Report:

Sequoia Voting Systems

February 15, 2008

Executive Summary

The enactment of House Bill 08-1155 provides the Secretary of State (Secretary) with increased authority over the testing process and allows for additional testing and communication with the vendors and counties by this office. The legislation allows for an order to decertify a voting system to be amended or rescinded if it is determined that the major deficiencies have been resolved or mitigated. As part of the decision to amend or rescind an order, HB1155 allows the Secretary to consider the “accuracy and security procedures, audits, processing functions, and other relevant procedures used by county clerks and recorders in accordance with the laws and rules governing the conduct of elections”.

This report by the Testing Board addresses the major deficiencies identified by the Secretary in his order on December 17, 2007 (December 17 decision) decertifying components of the Sequoia voting equipment. Based on additional information received by the Testing Board and testing conducted since the December 17 decision to decertify specific components of the system, this report demonstrates findings which mitigate the major deficiencies previously identified that led to the decertification of the voting system components.

Testing Board Findings

The Sequoia voting system WinEDS software, the Optech Insight precinct scanner and the Optech 400-C central count scanner were certified with conditions for use as part of the December 17 decision. The Direct Record Electronic (DRE) voter stations Edge II and Edge II Plus were decertified with the major deficiencies due to the failure to operate in a secured state requiring passwords; failure to provide auditable data to detect security violations; and failure to ensure all records have corresponding Voter Verifiable Paper Audit Trail (V-VPAT) records.

During the election process, election judges and/or county elections department staff may be required to change a roll of V-VPAT paper when the original roll expires. Due to the complicated process of “threading” the V-VPAT paper correctly on the device, and the fact that only one side of the paper is printable, this process can lead to incorrectly installed paper that is not detected until after one or more voters have been processed. The solution to such errors is to conduct a print test that verifies and documents the correct operation of the printer after the roll of paper is changed and before any new records are created. As of the December 17 decision, Sequoia had not provided documentation or otherwise demonstrated how, or even if a print test could be conducted for the V-VPAT to mitigate this issue.

Since the December 17 decision, Sequoia has been able to demonstrate the systems ability to conduct a print test on the V-VPAT whereby creating an audit trail that logs use of the machine, logs security violation, and ensures a verifiable paper audit trail.

The print test is crucial to ensure that the voting system complies with requirements of § 1-5-615, C.R.S., that electronic records of votes have corresponding V-VPAT records, and that the system saves and produces records necessary to audit the operation of the voting system. The print test provides the necessary record for a proper audit that can verify that all votes are captured and recorded correctly, and that a full audit of any security violations can be captured.

The Testing Board reviews and tests voting systems based on a standard of strict compliance. This means that any voting system that fails one test will not be recommended for certification. However, the Secretary's decision to certify or decertify a system is based upon the legal standard of substantial compliance pursuant to § 1-1-103, C.R.S. Factors to be considered under the substantial compliance standard include the extent of noncompliance with the Election Code and the purpose of the provision(s) violated and whether or not that purpose may be achieved despite the violation

The information listed in the "Sequoia Voting Systems Project Overview – A.3", the amended Project Overview binder, sets forth the necessary conditions to be fulfilled in order for such equipment to be used should the Secretary amend his December 17 decision to certify the system for use in the State of Colorado.